

2 Progressive Approach to Environmental Problems

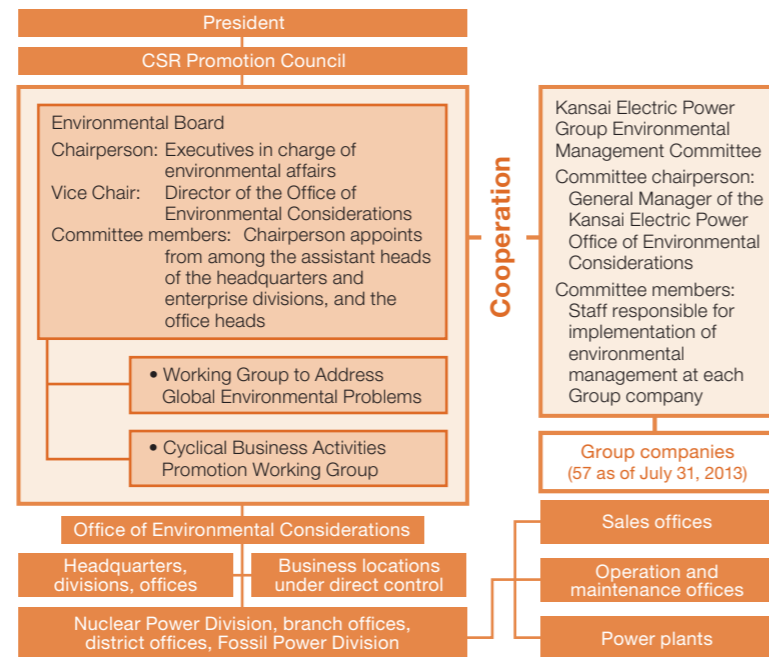
Kansai Electric Power Group Environmental Action Plan



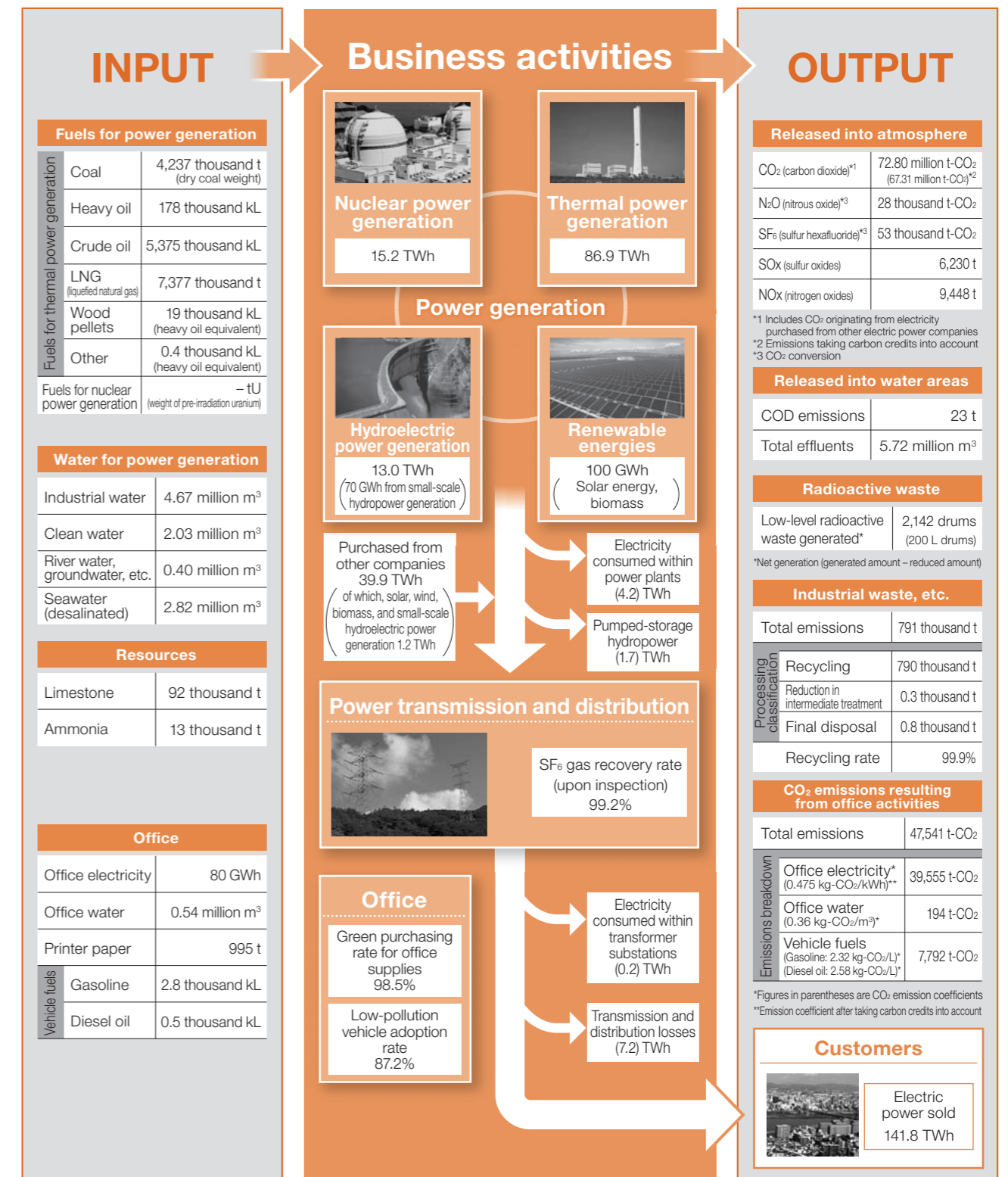
Promoting environmental management on a Group-wide basis

To carry out our environmental management activities across the entire Kansai Electric Power Group, we are building an environmental management promotion system within Kansai Electric Power and our Group companies. Kansai Electric Power has established an Environmental Board within its CSR Promotion Council. For the Group, we have established the Kansai Electric Power Group Environmental Management Committee, and are working to develop Eco Action measures and implement Check and Review, as well as comply with environmental law and other regulations. Going forward, we will continue to promote these efforts to reduce the Group's overall environmental impact and environmental risk.

Environmental Management Promotion System of Kansai Electric Power and Group Companies



Status overview of our business activities and environmental load (FY 2012)



Note 1: This table contains non-consolidated figures for Kansai Electric Power Co., Inc. only.
 Note 2: Totals may not sum due to rounding.
 Note 3: Thermal power generation figures do not include biomass power generation.

*Composite index = $\frac{\text{Environmental load caused by CO}_2, \text{SO}_x, \text{NO}_x, \text{and landfill disposal of industrial waste}}{\text{Resources consumed (Oil, coal, LNG)}}$
 (In calculations starting in FY 2007, we are using the LIME2 integrated coefficient developed by the National Institute of Advanced Industrial Science and Technology.)
 (The amount of CO₂ emissions shown takes carbon credits into account.)

Eco Action (annual targets and results)

Item	FY 2012 targets	FY 2012 results	Related page
Initiatives toward the realization of a low-carbon society			
CO ₂ emissions reduction per unit of power used (sold)	Approx. 0.282 kg-CO ₂ /kWh* (5-year average for FY 2008–12)	0.346 kg-CO ₂ /kWh* (5-year average for FY 2008–12) Single FY results 0.475 kg-CO ₂ /kWh* (Before taking carbon credits into account: 0.514 kg-CO ₂ /kWh)	P.36
Promoting "safety first" operations at nuclear power plants	Implement safety improvement measures in response to the Fukushima Daiichi Nuclear Power Station accident, and continue operating nuclear power plants by making continuous improvements aimed at preventing the recurrence of an incident like the accident at Mihama Nuclear Power Station Unit 3.	Facility utilization rate: 17.7%	P.37
Maintaining and improving the thermal efficiency of thermal power plants (lower heating value base)	45.0% or more	44.2%	P.37
Development and dissemination of renewable energies	Promote the development and dissemination of renewable energies	<ul style="list-style-type: none"> Renewable energy development: 1 location, 1,900 kW*² Achievement of RPS system minimum: 1.33 billion kWh Surplus solar power purchased: 159 million kWh Fixed-price renewable energy power purchased: 452 million kWh 	P.37
Limiting SF ₆ emissions (calendar year basis) (gas recovery rate upon inspection/removal of equipment)	97% (upon inspection) 99% (upon removal)	99.2% (upon inspection) 99.4% (upon removal)	-
Ratio of low-pollution vehicles to all vehicles held	86.6%	87.2%	-
Electric vehicles and plug-in hybrid vehicles introduced	Approx. 320 vehicles by FY 2013 Approx. 1,500 vehicles by FY 2020	Number of vehicles: 274	P.39
Initiatives toward the achievement of a sound material-cycle society			
Improving the recycling rate of industrial wastes	More than 99.5% (by FY 2012) Efforts to continue in FY 2013 and beyond	99.9%	P.41
Proper processing of PCB wastes* ³	Process all PCBs by the legal deadline (by March 2027)	Processed volume (cumulative total) Low-concentration PCB: 77,000 kL High-concentration PCB: 3,167 units	P.42
Initiatives toward a trusted, environmentally advanced corporation			
Maintaining sulfur oxide (SO _x) and nitrogen oxide (NO _x) emission levels proportional to the volume of power generated	SO _x	Maintain current status Ref: 5-year averages for FY 2007–11 0.03 g/kWh (overall) 0.06 g/kWh (thermal)	P.42
	NO _x	Maintain current status Ref: 5-year averages for FY 2007–11 0.05 g/kWh (overall) 0.11 g/kWh (thermal)	
Measured dosages of radioactive gaseous waste in public areas around nuclear power plants	Less than 0.001 millisieverts/year	Less than 0.001 millisieverts/year	-
Promotion of environmental household account books	Encourage the use of Kansai Electric Power environmental household account books both inside and outside the company	Number of registrations: 17,648	P.43

Item	FY 2012 target	FY 2012 actual
Reducing office electricity consumption	Continuing efforts to conserve energy	Compared to previous fiscal year: 8.5% reduction (actual) 83.273 million kWh
Reducing office water consumption	1% or more reduction compared to the prior fiscal year	Compared to previous fiscal year: 2.9% reduction (actual) 538,089 m ³
Improving fuel efficiency of company vehicles	1% or more improvement compared to the prior fiscal year	Compared to previous fiscal year: 5.0% increase (actual) 10.35 km/L
Reducing copy paper consumption	Promote maximum possible reduction	Compared to previous fiscal year: 10.4% reduction (actual) 995 t
Improving the green purchasing rate for office supplies (45 items)	Maintain current status (approx. 100%) (45 items)	Maintain current status (approx. 100%) Ref: 98.5% (45 items)

*1 Takes carbon credits into account as provided for under the Kyoto Mechanism.
 *2 Shin-Kuronagi No. 2 Hydropower Station (commenced operation December 2012)
 *3 The high-concentration PCB waste processing figures indicate the actual amounts shipped to the processing facilities of the Japan Environmental Safety Corporation.

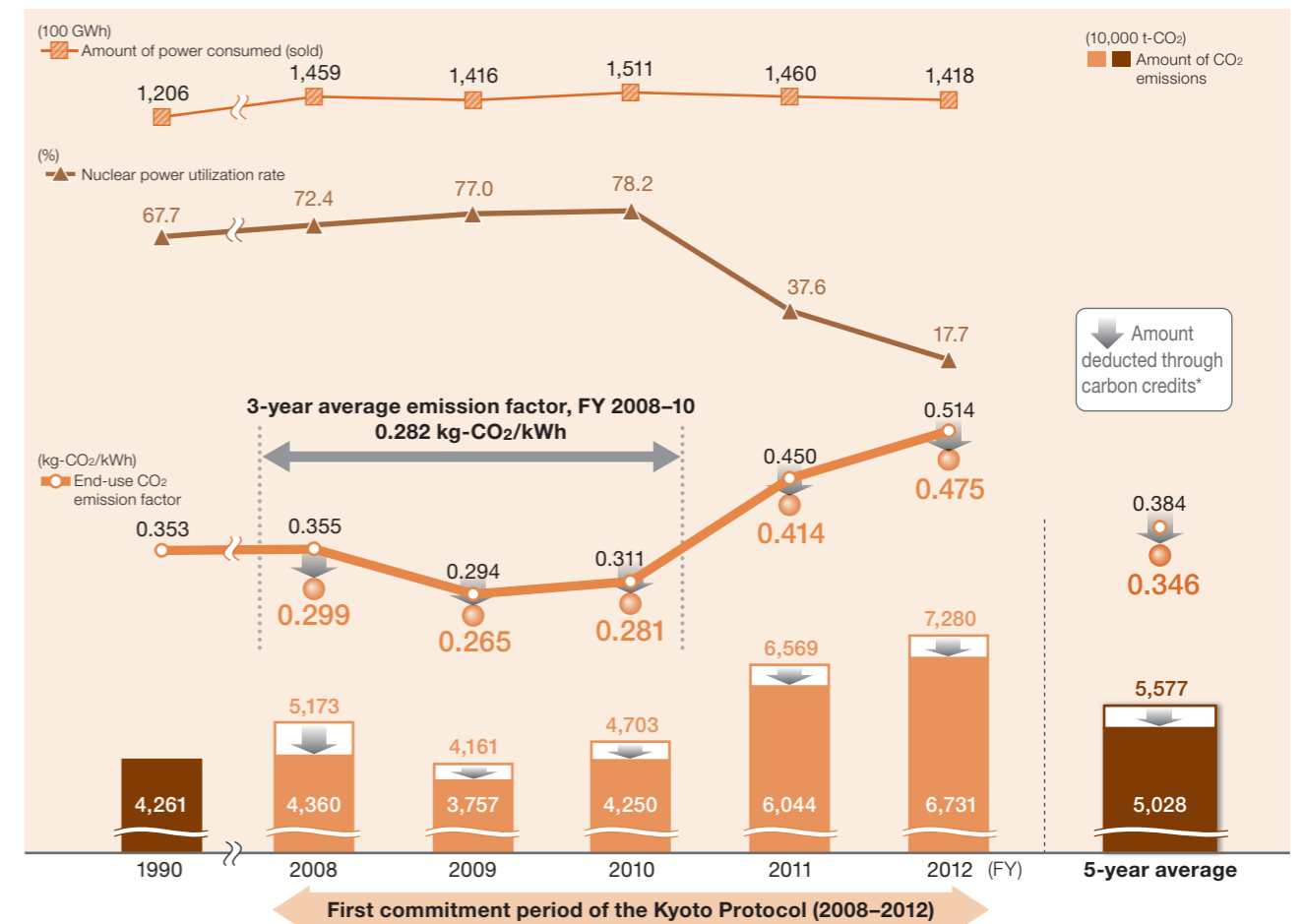
Striving to achieve a low-carbon society

Summary of 5 years of efforts to reduce CO₂ emission factor

Kansai Electric Power established a goal of reducing its average CO₂ emission factor to approximately 0.282 kg-CO₂/kWh over the five years from fiscal 2008 to 2012. Our efforts to achieve this goal will include promoting safe, stable nuclear power generation; maintaining and enhancing thermal efficiency for thermal power generation; maintaining and expanding hydropower generation; and developing and adopting renewable energy. To supplement these efforts, we have utilized carbon credits, for example under the Kyoto Mechanism. During the three-year period from fiscal 2008 to 2010, our average CO₂ emission factor reached the goal of 0.282 kg-CO₂/kWh. However, due to such factors as the extended shutdown of nuclear power plants and accompanying increase in thermal power

generation in the wake of the Great East Japan Earthquake, the CO₂ emissions amount has increased significantly since fiscal 2011. Kansai Electric Power's operating environment has become extremely challenging since the earthquake of 2011, but we continued our efforts to contribute to global warming prevention through such measures as maintaining the use of carbon credits at pre-disaster levels. As a result, our five-year average CO₂ emission factor for fiscal 2008 to 2012 was 0.346 kg-CO₂/kWh. Kansai Electric Power will continue to promote a variety of efforts to reduce its CO₂ emissions, particularly through the use of nuclear power with a rigid emphasis on safety.

Changes in CO₂ Emission Factor, etc.



*Values are based on the calculation, reporting and publication system for greenhouse gas emission volumes, as mandated by the Law Concerning the Promotion of the Measures to Cope with Global Warming. The emission factors for FY 2011 and 2012 after adjustment include exclusions reflecting carbon credits as well as environmental value adjustments based on the system of fixed-price purchases of surplus solar and renewable energy.

Nuclear power utilization as a global warming protection measure

Nuclear power generation emits no CO₂, making it an important measure for preventing global warming. Since the Great East Japan Earthquake, with our nuclear power plants shut down for an extended period, Kansai Electric Power's CO₂ emissions have risen significantly. Solar and wind power, like nuclear power, emit no CO₂. How-

ever, their energy density is low, requiring large sites. In addition, the output of these energy sources is unstable and expensive, making them difficult to utilize. We therefore believe that utilization of nuclear power with an emphasis on safety will continue to be an important measure for preventing global warming.

Lowering electric power's carbon intensity

To realize a low-carbon society, we will continue safe, stable generation of nuclear power; enhance thermal power generation efficiency; promote the development and use of hydropower and such renewable energy sources as solar and wind power. In this way, we will strive to lower the carbon intensity of the electric power we provide to our customers.

Nuclear power generation prioritizing safety

Since nuclear power generation does not emit CO₂, we believe it will continue to be important as a source of energy to prevent global warming.

Kansai Electric Power is carefully evaluating the lessons and information gained from the accident at TEPCO's Fukushima Daiichi Nuclear Power Plant. We are ensuring that our nuclear power generation will be safe and stable by autonomously and continuously promoting measures to further enhance safety, as well as aiming to achieve world-class safety levels exceeding even those required by law.

Maintaining and enhancing the efficiency of our thermal power plants

Kansai Electric Power is pursuing ongoing measures in its thermal power generation facilities and operations to maintain and improve thermal efficiency in order to reduce the use of fossil fuels and thereby CO₂ emissions. We are also working to upgrade the Himeji No. 2 Power Station, one of our largest thermal power plants, to a combined-cycle power plant with cutting-edge 1,600°C-class gas turbines. This will improve thermal efficiency from approx. 42% to 60%, among the most efficient in the world, thus enabling significant reductions in our CO₂ emission factor.

Development and dissemination of renewable energy

Stable operation and functional enhancement of hydropower

Hydropower is a purely domestic energy source with excellent supply stability and economic efficiency. In addition, it emits no CO₂, making it an important energy source for preventing global warming. Kansai Electric Power will continue stable operation of our hydropower plants by carrying out appropriate maintenance, expand output at our existing facilities, promote adoption of an adjustable-speed system at our pumped-storage hydropower plants, and develop small- and mid-scale hydropower generation, with the goals of flexible response to supply and demand fluctuations and further mitigation of our environmental impact.

Facility upgrades for hydropower plants

We will systematically implement equipment upgrades, such as waterwheel and generator replacement, at hydropower plants including the Kurobegawa No. 2 Power Station. When performing these equipment upgrades, we will appropriately determine the best upgrade time frames. By using computerized analytic technologies, we will optimize the shape of the waterwheel runners and other elements to suit each power plant location. This will allow

us to replace older equipment with new equipment offering better power generation efficiency, and thus increase our power output.

Increasing generated power through efficient utilization of existing facilities

Promoting the Kasura River Diversion Plan

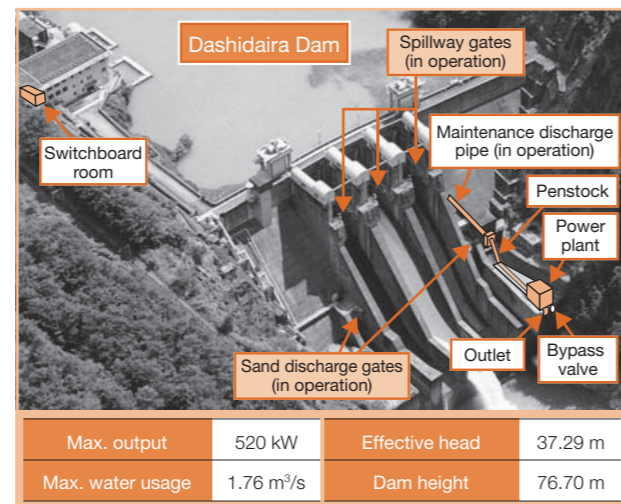
As one aspect of our efforts to further lower electric power's carbon intensity, we are promoting a plan to increase water volume at the Sakaigawa Power Station in Nanto, Toyama Prefecture by drawing water from the Kasura River to the Sakaigawa Dam and thereby increasing its power generation capacity.

The Sakaigawa Power Station has a hydropower output of 24,200 kW and produces around 73 million kWh of power annually. The realization of the diversion plan will expand this output by approximately 17 million kWh.

Construction of hydropower plants that utilize river maintenance flow

Dashidaira Power Station Construction Plan

As one of Kansai Electric Power's efforts to further lower electric power's carbon intensity, we are planning to construct the Dashidaira Power Station at our Dashidaira Dam (Unazuki, Toyama Prefecture). This power station will use river maintenance flow to generate a maximum output of 520 kW when it starts operation in 2014. The new station is expected to reduce annual CO₂ emissions by approximately 800 tons annually.



Wind power development

On December 20, 2012, Kanden Energy Development Co., Inc., a Kansai Electric Power Group company, began operating the Awaji Wind Power Station in Awaji, Hyogo Prefecture. This power station is the Group's first wind power plant, using six 2,000-kW installations to produce a total output of 12,000 kW, and is expected to reduce annual CO₂ emissions by approximately 9,500 tons.

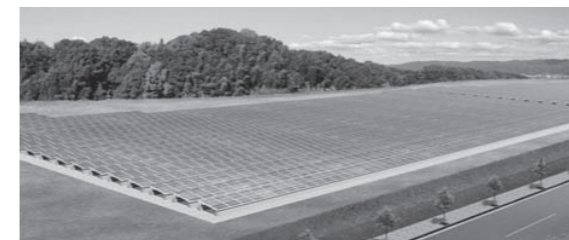


Awaji Wind Power Station

Kanden Energy Development is building its second wind power station, which will have an output of 6,000 kW, in Tahara, Aichi Prefecture. The station is scheduled to start operation in June 2014.

Solar power development

Kansai Electric Power Group company Kanden Energy Solution Co., Inc. is building a 2,000 kW mega solar power installation in Seika, Kyoto Prefecture. This solar power generation development is a joint effort between Kyoto Prefecture and Kansai Electric Power Group. Under this project the prefecture is working to promote and encourage awareness of solar power, while Kansai Electric Power Group will construct and operate the plant. The plant is expected to reduce annual CO₂ emissions by approximately 1,200 tons.



Mega Solar (Seika, Kyoto Prefecture)

Mixed coal/biomass power generation at Maizuru Power Station

The coal-fired Maizuru Power Station has been generating power using biomass fuel wood pellets mixed with coal since 2008. This reduces coal consumption and cuts CO₂ emissions.

Contribute to energy conservation, cost reductions and CO₂ reductions by customers and society

By enabling customers to use energy efficiently and comfortably, we are promoting contributions to reduced energy use, costs, and CO₂ emissions for customers and society. We are also promoting efforts to provide customers with useful services, as well as achieve energy conservation and reduced emissions at our worksites.

Contributing to reduced energy use, costs, and CO₂ emissions for customers and society

Energy management activities

To achieve reduced energy use, costs, and CO₂ emissions, we are responding to customer demands for energy conservation with a wide range of appropriate products and services including renewable energy and high-efficiency systems utilizing heat pump technology. We thus provide total energy management support for customers and society.

Serving residential customers

We provide energy conservation consulting services, including Home Eco Diagnosis, a service offered in conjunction with the

Ministry of the Environment. We also offer Hapi e-Miruden, a web-based tool that displays customer energy consumption. Through this and other useful services, we are promoting smarter use of electric power by our customers.

Serving corporate customers

We provide our customers with total energy management support by listening closely and offering advice concerning optimal energy systems and their use. In addition, we work with other Group companies to offer a range of services including energy conservation diagnosis and energy management support appropriate for the customer's facility usage patterns. While thus benefiting our customers, load leveling is achieved through energy conservation and reduction of peak electricity use.

R&D to support energy conservation by customers

To enable customers to utilize untapped energy at low cost, we are engaged in R&D relating to practical applications of heat pump systems and heat circulation technology. Using this technology, areas with drainage networks can utilize heat from untreated sewage. At the request of the New Energy and Industrial Technology Development Organization, we are promoting R&D collaboration with academic institutions.

Hapi e-Miruden power consumption monitor

Customers visiting Kansai Electric Power's web page can access our Hapi e-Miruden site, where they can monitor their electric power use graphically. This is more effective than the conventional meter reading note in enhancing their awareness of energy conservation, cost reduction, and CO₂ emission reduction. Customers registering to use Hapi e-Miruden can review their electric power use and resulting CO₂ emissions for the past 24 months, including the current month. We also offer a report that displays an analysis of energy use and offers energy conservation advice. In addition, from the end of July 2013, we began a web-based service for customers with multiple service agreements that enables them to check their total energy use and billing status, and download their data. Customers can also set energy conservation goals, record the results of their efforts, compare their lighting and heating costs and CO₂ emissions with comparable households, and keep the results in their own environmental household account book. These and other features offer the customer a wide range of information about electric power use.

Providing information about saving energy through websites and pamphlets

Kansai Electric Power distributes pamphlets that explain how customers can use energy more wisely. The Company's website offers information on energy conservation and lets customers simulate the results of conservation measures.

Web **HAPI-e Life Navi**
<http://www.hapilife.com/index.html>

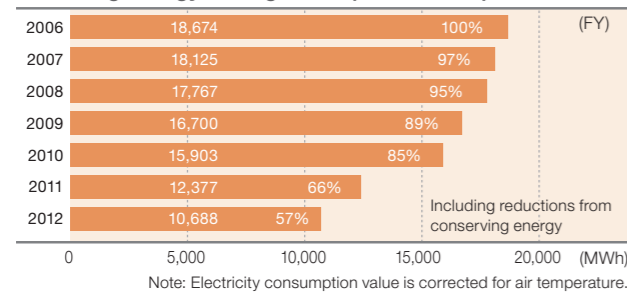


Energy conservation and CO₂ emission reduction at bases of operation

Energy management at bases of operation

To reduce energy consumption at our business locations, we implemented energy management at major locations in 2007. We measure energy use in each building by type and time of use, and use the resulting data to formulate and implement effective energy conservation measures. Business locations using energy management have reduced their energy consumption by approximately 4% annually. In 2012, however, thanks to a company-wide energy conservation effort, we succeeded in reducing energy consumption by 14% compared to 2011 and 43% compared to 2006, the year before we began these activities. We will continue these activities to promote further energy conservation at our business locations.

Electricity Consumption at Business Locations Utilizing Energy Management (18 locations)



Energy conservation for new buildings

Kansai Electric Power actively utilizes a range of technologies for energy conservation, cost reduction, and demand reduction in the construction of its new buildings. Our Hokusetsu Sales Office, which opened in October 2012, incorporates solar power generation, use of natural light, graphical energy consumption displays, advanced demand control and other features, with real-time system performance monitoring.

Introduction of electric vehicles

To realize a low-carbon society, we are introducing eco-friendly electric and plug-in hybrid vehicles. These vehicles are helping to reduce CO₂ emissions from our business and sales activities. Since we began utilizing these vehicles in 2009, we have introduced 274 vehicles that are in daily use at our business locations and elsewhere.

Introduction of Electric and Plug-in Hybrid Vehicles

	FY 2009	FY 2010	FY 2011	FY 2012	Total
Electric vehicles	86	57	64	33	240
Plug-in hybrid vehicles	25	0	0	9	34
Total	111	57	64	42	274

Technological developments for constructing the Kanden Smart Grid

The Kansai Electric Power Group aims to contribute to the achievement of a low-carbon society and better usability for customers through the construction of a smart grid (next-generation electricity transmission and distribution network).

What is the "Kansai Electric Power Smart Grid"?

The concept of the smart grid is gaining widespread acceptance. The Kansai Electric Power Group has positioned the smart grid as a key to achieving an efficient, high quality, reliable electricity transmission and distribution system, employing advanced information, communications, and storage battery technologies to achieve a low-carbon society and a better energy environment for customers without sacrificing the stability of the basic power grid.

Meeting the challenges of large-scale renewable energy use

National research committees and others have identified three potential challenges facing the large-scale or focused introduction of renewable energy, including solar power, into the electric power grid. One is the generation of surplus power. Another is variations in power output caused by the weather. The third is the occurrence of reverse flow at the linkage point with the electric power grid. These problems all may pose risks to the stability of the power grid.

Kansai Electric Power is working to address these problems through efforts to evaluate the impact of large-scale solar power introduction on the power grid and promote R&D of countermeasure technologies, ranging from advanced voltage control to battery-based power supply and demand control systems.

Usability improvements for customers

To enhance usability, including providing support for customers' energy conservation, we are promoting such measures as graphical representation of energy consumption and expansion of the use of smart meters.

Smart meter introduction efforts

Kansai Electric Power is promoting the introduction of smart meters, which use fiber-optic networks and other means to more finely measure customer electricity consumption and enable remote data collection. This not only makes possible further efficiency and safety enhancement, but allows for more efficient facility configuration based on electric power use patterns as well as enhanced energy consulting.

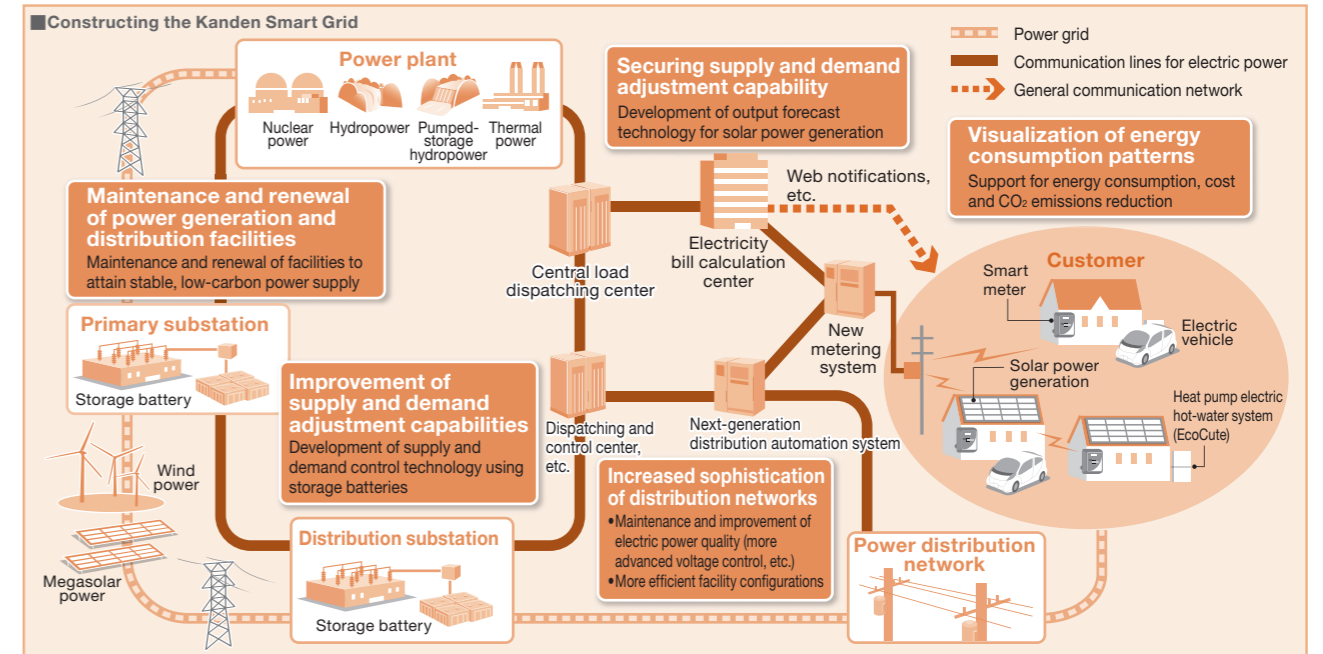
Collaborating with customers to stabilize supply-demand balance

As a means to reduce peak power use amid tight supplies of electric power, we prepared measures including requests for load adjustment through aggregators during summer 2013 based on results of tests conducted during the previous summer for customers using building energy management systems (BEMS)* (principally customers with service contracts of less than 500 kW).

*BEMS: Energy management systems for load adjustment and control of building air conditioning, lighting, and other systems.

Promoting graphic representation of energy use

We offer the Hapi e-Miruden service, which charts energy use, as well as Eco e-Life Check, an environmental household account book for recording CO₂ emissions.



Development of advanced technologies

Utilizing our specialized technological capabilities as an electric power supplier, we are contributing to the achievement of a low-carbon society through the development of advanced technologies, including technologies for grid management and control, energy management, and environmental protection.

Technological developments for constructing the Kanden Smart Grid

Development of power system operation and control technology

Solar and other renewable power supplies are distinctive in that their output can vary significantly over the short term due to factors such as weather. The widespread implementation of these methods of power supply thus raises concerns about potential impacts on voltage and frequency. To ensure that customers are not affected, we are taking steps to evaluate the impact that the introduction of renewable power supply might have on the power grid and develop new power system operation and control technologies.

Research of electricity supply and demand control systems using storage batteries

Using storage batteries to absorb output fluctuations from solar power generation allows maintenance of a stable grid electricity frequency.

Today we are conducting field tests of storage batteries at the Ishizugawa Substation, which is linked to the Sakai Solar Power Station.

We are the first in Japan to conduct research on electricity supply and demand control systems connecting Ni-MH (nickel metal hydride) batteries to an actual power grid.

The results of this research are expected to lead not only to the development of control systems, but also to assessment of the applicability and longevity of storage batteries, and investigations of the storage battery capacity that will be necessary when we connect battery systems to our power grid in the future.

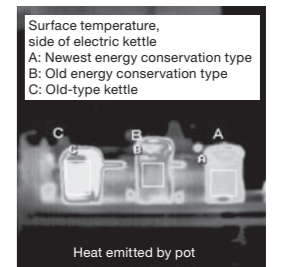


A storage battery being used in research

R&D to support customers' energy conservation

Equipment evaluation for energy conservation consultations

To help customers conserve energy, we quantitatively evaluate the effects of differences in use of electric appliances and installation approaches. In addition, we work to represent evaluation results graphically so that they can be easily grasped by customers.



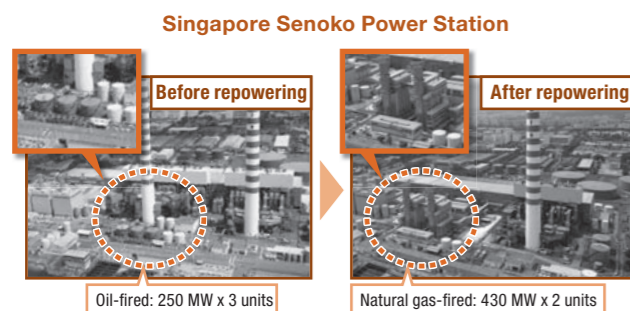
Graphic representation makes evaluation results easy to grasp

Overseas activities

Utilizing the technological capabilities, knowledge and expertise that we have gained through years of operation as an electric power supplier, the Kansai Electric Power Group is undertaking a wide range of activities outside Japan to contribute to the mitigation of global warming on a worldwide scale.

Senoko Power Station Repowering Project

In 2008, Kansai Electric Power and other companies purchased shares in Senoko Power Limited, Singapore's largest electricity supplier. In August 2012, work begun in 2009 was completed to convert Senoko Power Station's oil-fired steam thermal plants, with a total capacity of 750 MW (250 MW x 3 units), to combined-cycle natural gas turbines with a total capacity of 860 MW (430



MW x 2 units). Kansai Electric Power helped support the project by dispatching engineers to support the plant's process management and quality control processes. This repowering project will benefit the environment by expediting efficient energy use and bringing about major reductions in CO2 emissions.

Technology transfer, personnel development project

The Global Sustainable Electricity Partnership is an organization of the world's leading electric power companies that promotes sustainable energy development. As a partnership member, Kansai Electric Power has participated in a range of assistance for developing nations and eco-projects, including a small-scale hydropower project for Bhutan and a solar power project for Tuvalu. In June and August, 2012, we held workshops for electric power company technicians from Pacific island nations on the theme of improving energy utilization efficiency. These efforts have continued since 2005, centering on the themes of renewable energy and energy conservation, and this year's workshops were the tenth such event. In this manner, Kansai Electric Power is helping island nations meet the numerous challenges that they face with technology transfers and human development programs, and contributing to the solution of global problems, particularly global environmental problems.



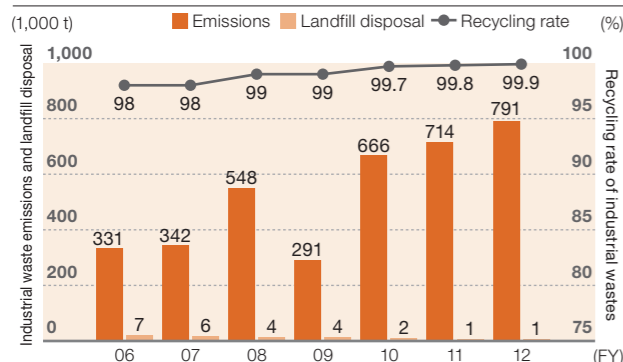
Workshop for Pacific island nations

Initiatives toward the achievement of a sound material-cycle society

Efforts to achieve zero emissions

Kansai Electric Power is working to promote the recycling of industrial waste generated by its business activities, with the goal of achieving zero emissions, and a target industrial waste recycling rate of 99.5% or higher by FY 2012. Principal types of waste emitted by Kansai Electric Power include coal ash from coal-fired thermal power plants and concrete pole fragments remaining from

Changes in Emissions and Recycling Rates for Industrial Wastes



Note: Industrial waste recycling rate (%) = (industrial waste emissions - landfill disposal amount) / industrial waste emissions x 100
FY 2011 emission figures are revised figures.

power grid construction, and we are making companywide efforts to recycle rather than bury this waste. As a result, we achieved a 99.9% recycling rate for industrial and other waste in FY 2012, the third consecutive year that we have reached our target. Going forward, we will strive to continue zero emissions. We are also working to reduce and recycle general waste, such as printer paper, produced by our offices.

Main Applications of Recycled Industrial Waste, etc.

Type of industrial waste	Recycling rate	Main recycling applications
Metal scraps	99.8%	Metal recovery
Demolition debris (Waste concrete utility poles, etc.)	99.8%	Roadbed materials
Soot (Coal ash, heavy oil ash, etc.)	100%	Cement raw materials
Sludge (Desulfogypsum, wastewater processing sludge, etc.)	99.7%	Construction materials
Cinders (Coal ash, heavy oil ash, etc.)	100%	Rare metal recovery
Waste oil	99.8%	Fuel

Green purchasing efforts

Kansai Electric Power is conducting green purchasing activities such that products and services with minimal environmental impact are given priority in purchasing decisions. Specific measures include the creation of a "green procurement manual" and the establishment of company-wide targets. In the area of office supplies, we have maintained a nearly 100% green purchasing rate since we launched such efforts in FY 2003. We are also making every effort to use environmentally friendly products when purchasing electric wires, transformers, and other equipment for electric power facilities.

Polychlorinated Biphenyl (PCB) waste processing

Kansai Electric Power complies strictly with the Law Concerning Special Measures Against PCB Waste and related laws, and promotes safe, reliable disposal based on the special characteristics of the PCB waste involved.

Kansai Electric Power uses a range of methods for dealing with the disposal of electrical equipment containing minute amounts of

PCBs. We established the Recycling Center for Utility Pole Transformers to render insulation oil and transformer cases harmless and suitable for recycling. For larger transformers, we are promoting appropriate processing using Group company technology and facilities, taking into account implementation status of national disposal mechanisms, in part by using in-situ weld cleaning technology developed with Kanden Engineering Corp., as well as KANDEN GEO-RE Inc.'s high-temperature processing facilities to burn insulating oil containing minute quantities of PCBs. In accordance with the government's basic plan, we have commissioned Japan Environmental Safety Corporation (JESCO) to process waste containing high-concentration PCB insulating oil.

PCB Waste Decontamination Status (as of March 31, 2013)

Low-concentration PCB waste (pole transformers)		
	Insulation oil (10,000 kL)	Transformer cases (10,000 units)
Volume to be processed	Approx. 10	Approx. 24
Volume processed so far (cumulative)	Approx. 7.7	Approx. 18.6

High-concentration PCB waste (high-voltage transformers and capacitors)	
Volume to be processed	5,534 units
Volume processed so far (cumulative)	3,167 units

Initiatives toward a trusted, environmentally advanced corporation

Promotion of community environmental protection measures

Kansai Electric Power conducts comprehensive efforts to protect the community environment, including preventing air pollution and water contamination. We also take appropriate measures to prevent chemical substances from harming people and the environment.

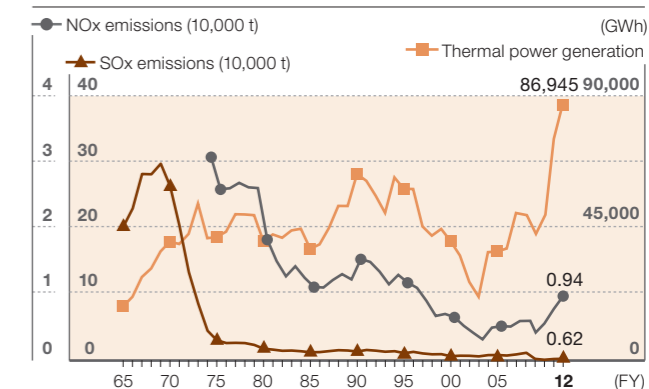
Environmental protection measures at power plants

At our power plants, we undertake measures based on laws, local regulations, environmental protection agreements and other rules to reduce air pollution, water contamination, noise, vibrations, and other problems. In addition, we monitor and measure the air and ocean around our power plants and carefully evaluate the environmental effects of our operations on the regional environment to ensure that no problems occur.

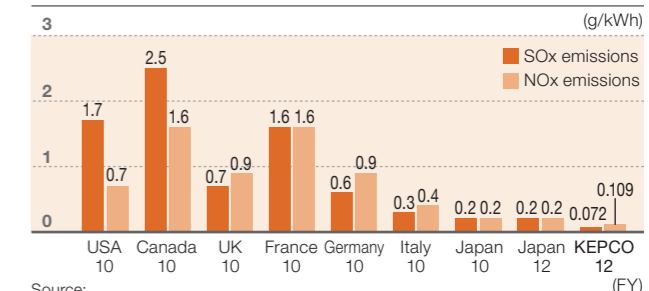
Air pollution prevention measures (NOx, SOx, soot)

Kansai Electric Power has implemented measures aimed at reducing the volume of SOx (sulfur oxides) emitted by our thermal power plants, such as using fuels with lower sulfur content and installing sulfur scrubbers. To address the issue of NOx (nitrogen oxides), we are taking steps to lower emission levels, such as installing nitrogen scrubbers and improving combustion methods. As a result, our SOx and NOx emissions proportional to the amount of electric power generated are ranked among the lowest in the world. In addition, we have installed high-performance electric filters, drastically cutting soot emissions.

Thermal Power Generation and SOx and NOx Emissions



SOx and NOx Emissions per Unit of Thermal Power Generated



Source: Overseas: Emission amounts: OECD.StatExtracts Complete databases available via OECD's iLibrary
Amounts of electric power generation: IEA, Energy Balances of OECD Countries 2012 Edition
Japan figures: Federation of Electrical Power Companies of Japan (10 electric power companies and Electric Power Development Co., Ltd.)

Measures to prevent soil and groundwater contamination

Kansai Electric Power has produced its own Handbook on Measures Against Soil Pollution, and complies with all laws and local regulations against soil contamination. Moreover, our power plants have water- and oil-retaining walls installed, preventing soil contamination from chemicals and fuels such as heavy oil in the unlikely event of leakage.

Efforts to handle asbestos problems

Kansai Electric Power has been periodically monitoring and appropriately managing the condition of facilities identified as containing asbestos and taking appropriate action. We continue to execute carefully planned measures such as removal of asbestos and replacement with alternative materials.

■ Locations (Buildings and Facilities) Where Asbestos Is Used (as of March 31, 2013)

Application		Location
Sprayed materials containing asbestos		Thermal insulation, acoustic materials, fire-resistant materials and soundproof transformer materials
Items containing asbestos	Building materials	Flame-retardant boards, roofing and flooring in buildings, etc.
	Asbestos cement tubes	Tubing for underground cables (power transmission and distribution, communication equipment)
	Thermal insulation	Power generation equipment (thermal, nuclear)
	Sealants and joint seating	Power generation equipment (thermal, nuclear)
	Shock-absorbing materials	Suspension insulators for power transmission equipment, etc.
	Adhesives	Overhead power transmission wires, hydroelectric dams

Proper handling of chemical substances

In addition to complying with the Pollutant Release and Transfer Register (PRTR) Act, the Company has prepared a Handbook on PRTR Chemical Management. We follow its guidelines to ensure strict management of hazardous chemical substances, and make efforts to reduce the volume of such substances. In accordance with the PRTR Act, we report to the national government our volumes of chemical emissions and the amounts transported, and regularly make the same information public.

■ Discharge and Transferred Chemical Substances Subject to PRTR Act

Substances	Discharge (t/year)		Transferred (t/year)	
	FY 2011	FY 2012	FY 2011	FY 2012
2-aminoethanol	0	0	4.5	3.7
Asbestos (specified)	0	0	16	15
Ethylbenzene	15	6.1	<0.1	<0.1
Ferric chloride	0	0	0	0
Xylene	31	11	0.22	0.16
HCFC-225	3.0	4.9	0	0
Dioxins (specified)	0.13 (mg-TEQ/year)	0.041 (mg-TEQ/year)	0.0066 (mg-TEQ/year)	0.0023 (mg-TEQ/year)
1,2,4-trimethylbenzene	1.1	—	0	—
Toluene	8.2	16	0.44	<0.1
Hydrazine	<0.1	<0.1	8.1	<0.1
Normal hexane	—	7.3	—	0
Benzene (specified)	<0.1	3	0	0
Boron compounds	<0.1	0	4.6	9.4
PCB	0	—	0.87	—
Methylnaphthalene	1.2	2.7	0	<0.1
Methylenebis(4,1-phenylene) =diisocyanate	—	1.3	—	0

Note: This table presents a summary of the values reported based on the Pollutant Release and Transfer Register (PRTR) Act.
 *0" indicates no discharge or transfers for the reporting business location.
 "<0.1" indicates discharge, etc. was less than 0.1 t/year.
 A "—" indicates that the item is not applicable to any Company facility.
 Figures are displayed to two significant digits.

Promoting environmental communication

Committed to active release of environmental information, the creation of a better environment, and the achievement of a sustainable society, Kansai Electric Power is not only weighing various ecological issues, but also working actively with customers and the regional community to raise environmental awareness.

Website-based information disclosure

The "Environmental Activities" section of our Japanese-language website serves as a centralized information resource for the range of activities we are engaged in to preserve the environment.



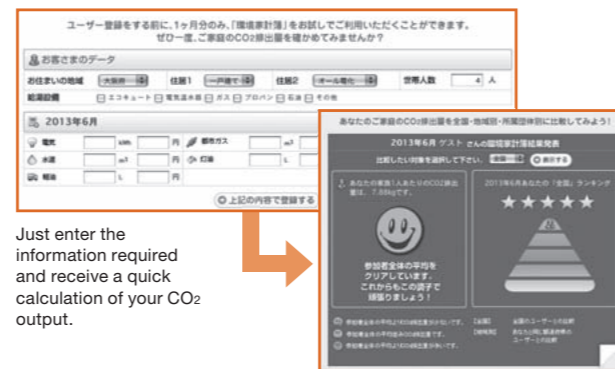
Web Kansai Electric Power Environmental Activities
<http://www1.kepco.co.jp/kankyuu/>

Web Environmental Report
<http://www1.kepco.co.jp/kankyuu/csr>

Family-oriented activities

■ Eco e-Life Check: an environmental household account book

To contribute to reductions in household CO₂ emissions, we have developed Eco e-Life Check, an environmental household account book that is a tool for graphically representing such emissions, and have made it available on our website. By inputting the amounts of electricity, gas, and water used, users can not only calculate their household CO₂ emissions, but can compare the results of their efforts to conserve energy with other users. Registering for the Hapi e-Miruden service makes Eco e-Life Check even more useful by letting users link electricity consumption data to their household account book.



Just enter the information required and receive a quick calculation of your CO₂ output.

Web Eco e-Life Check: An Environmental Household Account Book
<http://www1.kepco.co.jp/kankyuu/co2kakeibo/index.html>

Environment Month and other efforts

Kansai Electric Power collaborates with local communities to carry out numerous environmental activities. During June, which is Kansai Electric Power Group Environment Month, Group companies join to clean the area around their business locations, plant trees, participate in local events, and through many other activities join with customers and the local community to consider the environment.



Cleaning activities at Kasuga Grand Shrine

Promoting environmental management

We have introduced an environmental management system based on the total quality management (TQM) system, and are strictly complying with environmental law while working to reduce the environmental load of our business activities through continuous improvements.

Observance of laws and regulations

Kansai Electric Power complies strictly with environmental law. However, in FY 2012 there was one occurrence of improper disposal.

Outline of occurrence of inappropriate disposal

During a transformer inspection at Koyaguchi Substation, a transformer that used insulating oil containing minute amounts of PCB was disposed of as not containing PCB. After this was noted, a report was immediately made to the relevant authorities. Kansai Electric Power is taking thorough measures to prevent a recurrence of this type of occurrence. Going forward, we will strive to achieve full compliance with all environmental laws, regulations, and agreements.

■ Eco Action: Kansai Electric Power Group Company Concrete Action Plans

Item	Results for FY 2011 (for the 47 companies examined)	Targets and results in FY 2012		Targets			Evaluation (Reasons for increase/reduction)
		Targets	Results	FY 2013	FY 2014	FY 2015	
Reducing office electricity consumption	43.6 GWh	Continuing energy conservation efforts	7.5% reduction from previous year 40.4 GWh	Continuing power reduction efforts			Due to an increase in the number of business locations, some Group companies increased their consumption of electricity, but thanks to energy conservation efforts at individual offices, overall Group electricity consumption fell year on year.
Reducing office water consumption	281,200 m ³	1% or more reduction compared to the previous fiscal year	3.2% reduction from previous year 272,200 m ³	1% or more reduction compared to the previous fiscal year			Leakage from plumbing and measures to combat heat stroke led to an increase in water consumption by some Group companies, but thanks to water conservation efforts at individual offices, overall Group water consumption fell year on year.
Improving fuel efficiency of company vehicles	8.86 km/L	1% or more improvement compared to the previous fiscal year	2.2% decline from previous year 8.67 km/L	1% or more improvement compared to the previous fiscal year			Although each Group company worked to practice such techniques as ecological driving and idle reduction, some companies experienced an increase in short-distance trips, and due to these and other factors, overall Group fuel efficiency declined.
Reducing printer paper consumption	969.1 t	Reduce as much as possible	2.2% increase compared to the previous fiscal year 990.1 t	Reduce as much as possible			In spite of such efforts to reduce the use of paper as printing on both sides of the sheet, an overall expansion in the number of business locations and an increase in operational volume during FY 2012 resulted in higher overall Group use of paper year on year.
Green procurement of printer paper	85.8%	100% green procurement rate	4.6% improvement compared to the previous fiscal year 90.4%	100% green procurement rate			Although the goal was not reached, the overall Group green procurement rate increased over the previous year. Furthermore, around 80% of Group companies were able to achieve 100% green procurement.

Note: The number of applicable companies fell by one during FY 2012, from 47 to 46. Consequently, results were evaluated on the basis of the 46 companies.